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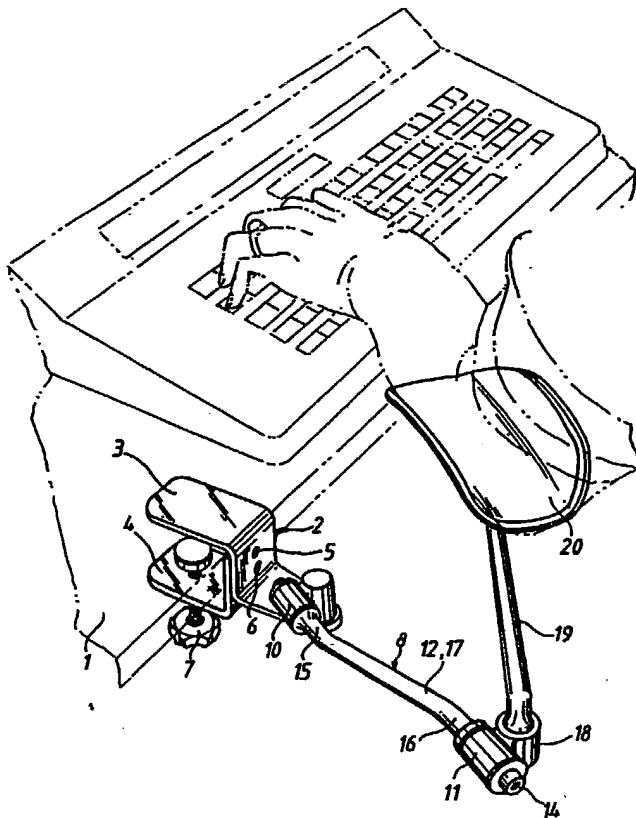
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 : A47B 17/03 // A47C 7/54	A1	(11) International Publication Number: WO 91/14384 (43) International Publication Date: 3 October 1991 (03.10.91)
(21) International Application Number: PCT/SE91/00202 (22) International Filing Date: 18 March 1991 (18.03.91) (30) Priority data: 9001006-7 21 March 1990 (21.03.90) SE (71)(72) Applicants and Inventors: GUTKE, Lennart [SE/SE]; Engelbrektsgatan 35, S-411 37 Göteborg (SE). SCOTT, Runo [SE/SE]; Torngatan 6, S-334 00 Anderstorp (SE). (74) Agent: AWAPATENT AB; Box 53252, S-400 16 Göteborg (SE). (81) Designated States: AT, AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BJ (OAPI pa- tent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH, CH (European patent), CM (OAPI patent), DE, DE (European patent), DK, DK (European patent), ES, ES (European patent), FI, FR (European patent), GA (OA- PI patent), GB, GB (European patent), GR (European patent), HU, IT (European patent), JP, KP, KR, LK, LU, LU (European patent), MC, MG, ML (OAPI patent), MR (OAPI patent), MW, NL, NL (European patent), NO, PL, RO, SD, SE, SE (European patent), SN (OAPI patent), SU, TD (OAPI patent), TG (OAPI patent), US.		Published <i>With international search report.</i> <i>In English translation (filed in Swedish).</i>
(54) Title: FOREARM SUPPORT (57) Abstract A forearm support intended for use in connec- tion with e.g. desk work, consists of a first pivotal arm section (8) which is secured to a holder (2) mounted on a table top (1), and of a second pivotal arm section (19) which is connected to the first pivotal arm section (8) and is provided with a forearm support element (20). The two pivotal arm sections (8, 19) are arranged for mutual pivotal movements and for pivotal movements relatively to the holder (2). The first pivotal arm section (8) comprises an arm (12) having two mutually parallel end portions (15, 16) and an obliquely extending inter- mediate arm portion (17) interconnecting the two end portions. The two portions (15, 16) are rotatably mount- ed so as to be set and locked in the desired angular po- sition in their respective one of housings (10, 11) which serve as pivot joints.		



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FOREARM SUPPORT

The invention concerns a support on which the forearm of a person operating a computer, a typewriter or performing other desktop operations, may rest during the work.

Devices for this purpose are known consisting of a first pivotal arm section which is secured to a table-top mounted holder and which is arranged for pivotal movement about a vertical shaft. A second pivotal arm section which is mounted on the first pivotal arm section, is arranged for pivotal movement in a horizontal plane about the outer end of the first pivotal arm section and is provided with a support element on which rests the forearm of a person working at the table-top.

With the aid of a forearm support of this kind, one on either side, persons working e.g. with computer terminals, may avoid that certain groups of muscles are exposed to unbalanced load with resulting musculo-skeletal disorders, an affliction of which hitherto a large number of individuals have been the victims. The various types of supports available on the market comprise a pivotal arm section consisting of two parallel arms. In order to set the support proper at the vertical position which corresponds to the correct and appropriate working position for the individual user, the pivotal arm section is adjustable with the aid of one or a couple of set screws. However, the number of possible positioning variations vertically are comparatively limited, which is often rather unsatisfactory, particularly when, as often is the case with computers, the keyboard is positioned in a lower-level recess formed in the supporting table-top or when the keyboard is positioned on an extension table top. However, it is all important, in order to achieve the adequate load relief on the forearm and as a result thereof on the neck and shoulders that one aims for, that it is possible to set the support in the correct

vertical position that brings about this relief.

This is obtained in accordance with the invention by means of a device which is of a more simple construction than prior-art constructions and which allows more
5 convenient and quicker positioning manoeuvres in order to achieve the optimum vertical height position in which the forearm support provides maximum load relief. The characterising features of this device appear from the appended claims.

10 The invention will be described in closer detail in the following with reference to the accompanying drawings, wherein

Fig. 1 is a perspective view of the forearm support in use, and

15 Fig. 2 shows the support in a lateral view in a certain vertical position with another, alternative vertical position being indicated in dash-and-dot lines.

A support holder 2 is mounted on a table top 1. The support holder 2 comprises a C-clamp of a structure
20 generally known per se and comprising two legs 3 and 4 which are joined together by a screw 5. An extra through hole 6 makes it possible to obtain a position of adjustment with a wider spacing between the legs 3, 4. A tightening screw 7 in threaded engagement with the clamp
25 leg 4 secures the holder 2 to the table top 1.

On clamp leg 3 is mounted a first pivotal arm section 8 in accordance with the invention for pivotal movement about a vertical shaft 9. The pivotal arm section 8 is formed with housings 10, 11, one at each end of the
30 pivotal arm 12 proper. The pivotal arm 12 is mounted in said housings 10, 11 so as to be pivoted and lockable therein in any desired angular position by means of a cone member 13 (only one of which is illustrated) and a tightening screw 14.

35 In accordance with the invention, the pivotal arm 12 comprises two mutually parallel end portions 15, 16 and an intermediate portion 17 extending obliquely between the

two end portions 15, 16. Owing to this configuration, it becomes possible, when the end portions 15, 16 are turned in their respective bearing housing 10, 11, to raise or lower the outer extremity portion to the desired vertical level between the maximum highest and the maximum lowest positions.

To the outer housing 11 is securely attached a further housing 18. In the latter is received one end of a second pivotal arm section 19 which is arranged for pivotal movement to the desired angular position relatively to the first pivotal arm section 8 and which is provided on its outer end with a forearm support element 20 arranged for turning movement. The support element preferably has a dish-shaped configuration in order to provide some support also laterally during pivotal movements.

By using this equipment a person who is operating a keyboard, for instance as illustrated in Fig. 1, may relieve the load on his neck and shoulder muscles in a very efficient manner. In order to adjust the vertical position of the forearm support element the screw 14 is unscrewed, thus untightening of the cone 13 somewhat. The same procedure is used as regards the housing 10. The pivotal arm 12 is then turned in one or the other direction in such a manner that the pivotal arm section 19 together with the forearm support element 20 are raised or lowered, according to wish. When the desired position of adjustment is obtained, the end portions 15, 16 are again locked in position in their respective one of housings 10, 11.

It is likewise possible, having initially set the forearm support element 20 roughly in the desired vertical position to tighten the screw 14 only slightly, so that following a check of the vertical position further turning of the pivotal arm 13 may be done with frictional resistance. In this way it becomes possible to obtain satisfactory adjustment rapidly and conveniently without

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risk that the desired position inadvertently is altered as the screw 14 is tightened to its home position.

The device in accordance with the invention is easy to handle due to its simple and uncomplicated structure and it may be manufactured at comparatively low costs. The design of the device is, however, not limited to that illustrated in the drawings but may be varied in many ways within the scope of the appended claims.

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CLAIMS

1. A forearm support for use in connection with
e.g. desk work, said support consisting of a first
pivotal arm section (8) which is secured to a holder (2)
5 mounted on a table top (1) and which is arranged for
pivotal movement relatively to the holder (2) about a
vertical shaft (9), and of a second pivotal arm section
(19) which is mounted on the first pivotal arm section (8)
for pivotal movement in a horizontal plane about the outer
10 end of the first pivotal arm section (8) and provided with
a support element (20) which supports the forearm of a
person working at the table top (1), c h a r a c t e r -
i z e d in that the first pivotal arm section (8)
consists of an arm (12) having two mutually parallel end
15 portions (15, 16) and an intermediate portion (17)
extending obliquely between the end portions, said two end
portions (15, 16) being rotationally journalled in their
respective one of two pivot joints (10, 11) and arranged
to be retained in said joints in different angular
20 positions.

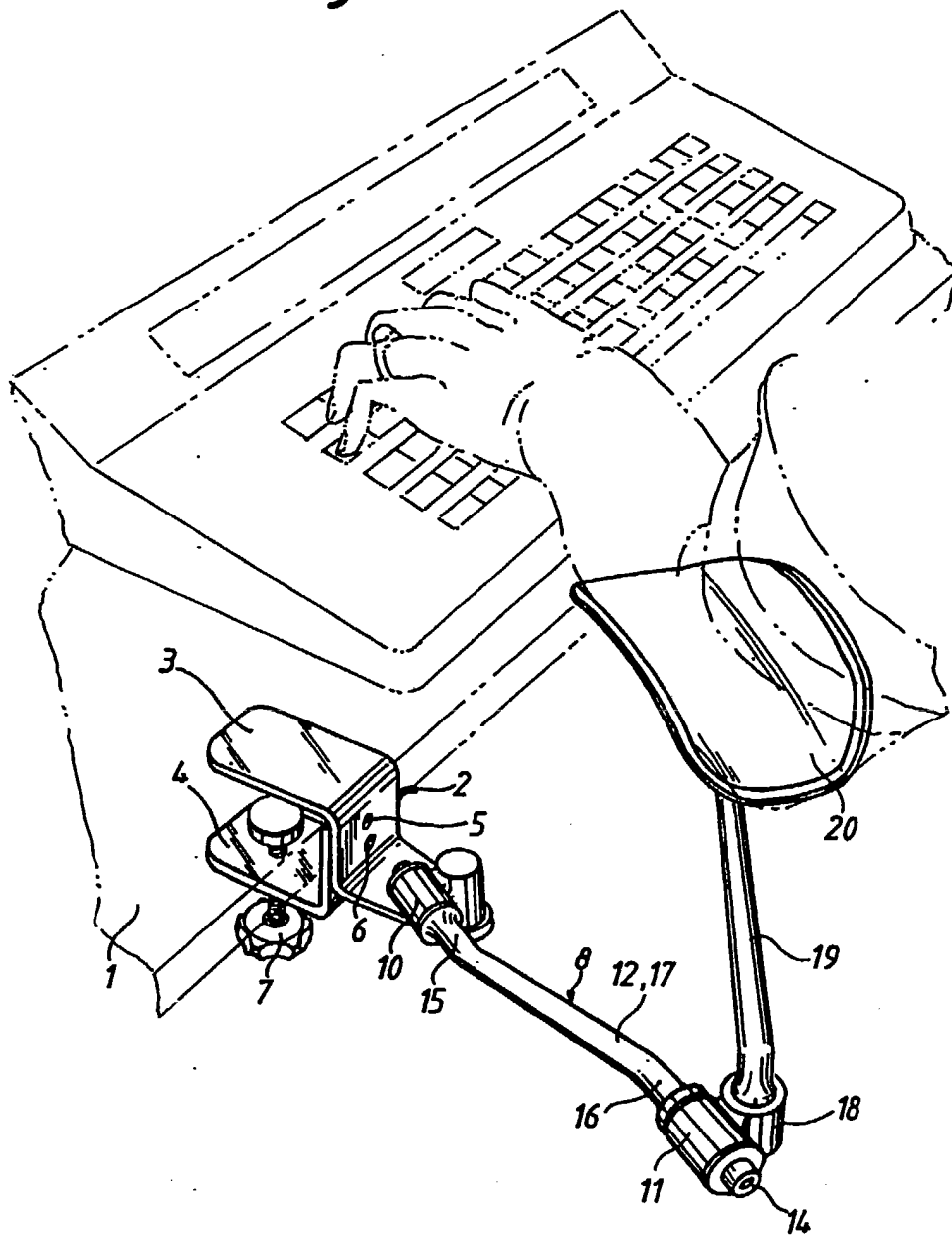
2. A forearm support as claimed in claim 1, c h a r -
a c t e r i z e d in that the pivot joints (10, 11) may
be set to allow arbitrary frictional resistance turning
movement of the associated end portion (15, 16) in said
25 joints (10, 11).

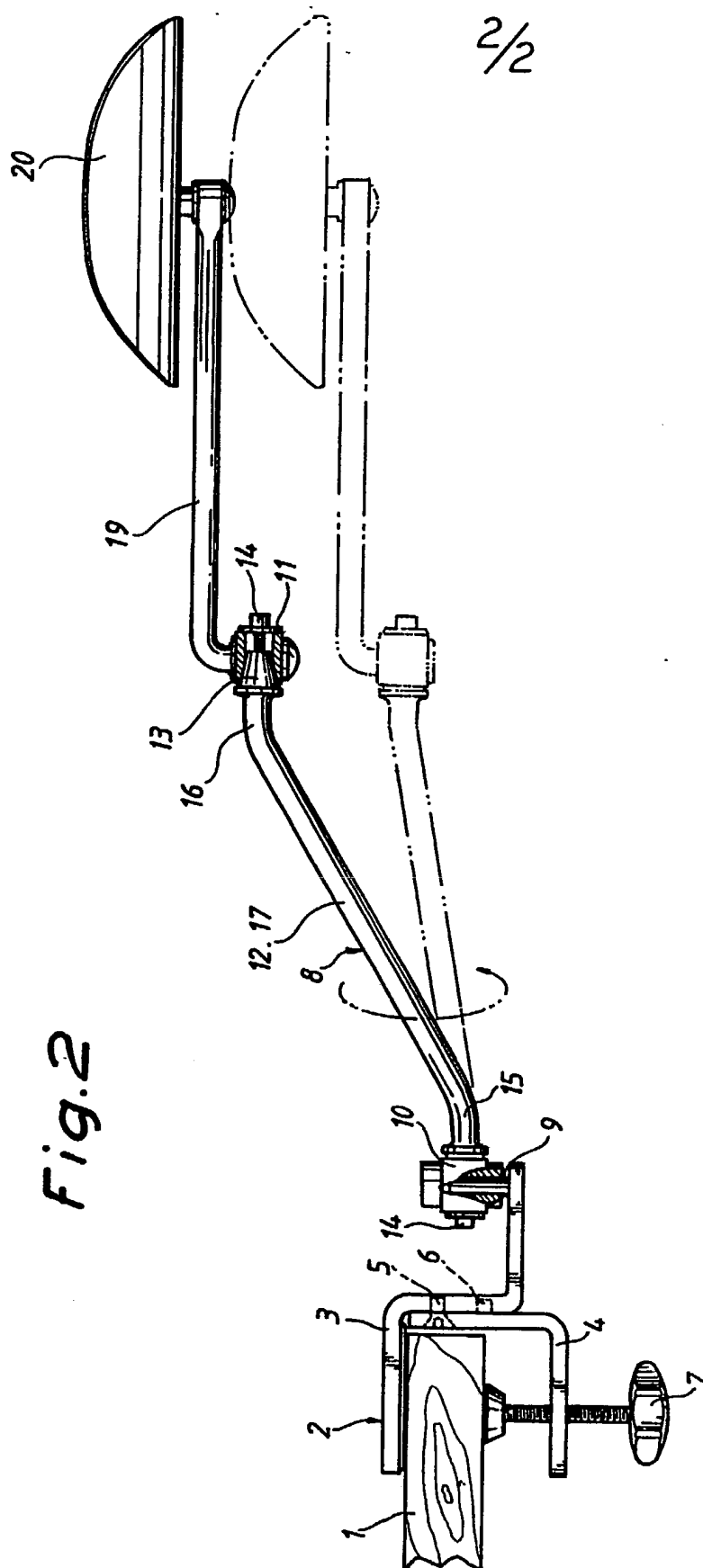
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Fig. 1





INTERNATIONAL SEARCH REPORT

International Application No PCT/SE 91/00202

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶ According to International Patent Classification (IPC) or to both National Classification and IPC IPC5: A 47 B 17/03 // A 47 C 7/54								
II. FIELDS SEARCHED <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">Minimum Documentation Searched⁷</div> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 20%; border: 1px solid black; text-align: left;">Classification System</th> <th style="border: 1px solid black; text-align: left;">Classification Symbols</th> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">IPC5</td> <td style="border: 1px solid black; padding: 5px;">A 47 B; A 47 C; F 16 B; G 09 F</td> </tr> </table> <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in Fields Searched⁸</div> <p style="padding: 5px;">SE,DK,FI,NO classes as above</p>			Classification System	Classification Symbols	IPC5	A 47 B; A 47 C; F 16 B; G 09 F		
Classification System	Classification Symbols							
IPC5	A 47 B; A 47 C; F 16 B; G 09 F							
III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%; text-align: left;">Category *</th> <th style="width: 60%; text-align: left;">Citation of Document,¹¹ with indication, where appropriate, of the relevant passages¹²</th> <th style="width: 30%; text-align: left;">Relevant to Claim No.¹³</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top; padding: 5px;">A</td> <td style="vertical-align: top; padding: 5px;"> CH, A, 268129 (ELISABETH WIELAND) 17 July 1950, see the whole document <div style="text-align: center; margin-top: 20px;">-----</div> </td> <td style="vertical-align: top; padding: 5px;">1,2</td> </tr> </tbody> </table>			Category *	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³	A	CH, A, 268129 (ELISABETH WIELAND) 17 July 1950, see the whole document <div style="text-align: center; margin-top: 20px;">-----</div>	1,2
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<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>* Special categories of cited documents:¹⁰</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 50%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&" document member of the same patent family</p> </div> </div>								
IV. CERTIFICATION <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border: 1px solid black; padding: 5px;"> Date of the Actual Completion of the International Search <div style="text-align: center; font-weight: bold;">2nd May 1991</div> </td> <td style="width: 50%; border: 1px solid black; padding: 5px;"> Date of Mailing of this International Search Report <div style="text-align: center; font-weight: bold;">1990 -06- 14</div> </td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;"> International Searching Authority <div style="text-align: center; font-weight: bold; margin-top: 10px;">SWEDISH PATENT OFFICE</div> </td> <td style="border: 1px solid black; padding: 5px;"> Signature of Authorized Officer <div style="text-align: center; margin-top: 10px;"> Leif Vingård </div> </td> </tr> </table>			Date of the Actual Completion of the International Search <div style="text-align: center; font-weight: bold;">2nd May 1991</div>	Date of Mailing of this International Search Report <div style="text-align: center; font-weight: bold;">1990 -06- 14</div>	International Searching Authority <div style="text-align: center; font-weight: bold; margin-top: 10px;">SWEDISH PATENT OFFICE</div>	Signature of Authorized Officer <div style="text-align: center; margin-top: 10px;"> Leif Vingård </div>		
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**ANNEX TO THE INTERNATIONAL SEARCH REPORT
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
CH-A- 268129	50-07-17	NONE	